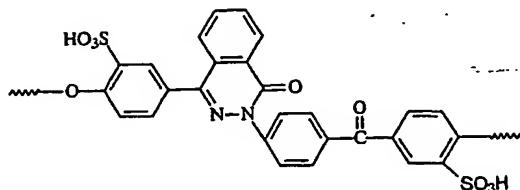


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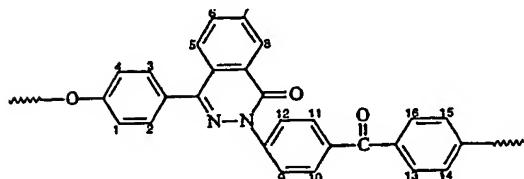
CLAIMS

1. Sulfonated poly(phthalazinones) of structural formula I

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2. Sulfonated poly(phthalazinones) of structural formula I as defined in Claim 1, in the form of a membrane.
3. Sulfonated poly(phthalazinones) of structural formula I as defined in Claim 1, wherein the degree of sulfonation (Ds) is in the range of 0.6 to 1.0.
4. A process for the preparation of sulfonated poly(phthalazinones) of structural formula I as defined in claim 1, comprising reacting poly(phthalazinones) of formula II



with a sulfonating agent

5. A process according to claim 4, wherein the sulfonating agent is a mixture of concentrated sulfuric acid and fuming sulfuric acid.
6. A process according to claim 4 or 5, including the additional step of casting the sulfonated poly(phthalazinones) to form a membrane.
7. A process according to any one of claims 4-6, wherein the sulfonating agent is a mixture of 95-98% concentrated sulfuric acid and 27-33% fuming sulfuric acid with different acid ratios.
8. Sulfonated poly(phthalazinones) ether sulfone ketones.
9. Sulfonated poly(phthalazinones) ether sulfones.

10. A process for preparing sulfonated poly(phthalazinones) ether sulfone ketones, comprising reacting a poly(phthalazinone) ether sulfones, with a sulfonating agent.
11. A process for preparing sulfonated poly(phthalazinone) ether sulfones, comprising reactng a poly(phthalazinone) ether sulfones with a sulfonating agent.
12. A process according to claim 11 or 12, wherein the sulfonating agent is a mixture of concentrated sulfuric acid and fuming sulfuric acid.
13. A process for the preparation of sulfonated poly(phthalazinones) of structural formal I as defined in claim 1, comprising polymerizing a mixture of DFK, SDFK-Na and DHPZ.